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|  | Requirement List |  |
| NO | Requirement Description |  |
| 1 | Geometry |  |
| 1.1 | Length-L |  |
| 1.2 | Width-w |  |
| 1.3 | Height-H |  |
| 2 | Kinematics |  |
| 2.1 | The vehicle has steering wheels |  |
| 2.2 | The vehicle has camera |  |
| 2.3 | The vehicle has braking system |  |
| 2.4 | The vehicle has lights |  |
| 3 | Performance |  |
|  | speed, accuracy, precision, force, torque, response time, resolution, or energy efficiency. |  |
| 4 | Safety |  |
|  | Address safety considerations to ensure the system operates without causing harm to users, operators, or the environment. This can involve emergency stop mechanisms, protective enclosures, fail-safe systems, or compliance with safety standards. |  |
| 5 | Power and Energy |  |
|  | Specify the power source, power consumption, and energy efficiency goals for the mechatronic system. Consider power supply options, battery life, charging requirements, or energy regeneration capabilities. |  |
| 6 | Control and Communication |  |
|  | Define the control interfaces and communication protocols needed for the system to interact with users or other devices. This can include input/output interfaces, networking capabilities, data exchange formats, or compatibility with existing systems. |  |
| 7 | Reliability and Maintenance |  |
|  | Determine the reliability goals for the system, including mean time between failures (MTBF), mean time to repair (MTTR), and the ease of maintenance or replacement of components. Consider redundancy, fault detection mechanisms, or predictive maintenance capabilities. |  |
| 8 | Cost Constraints |  |
|  | Establish the budgetary limitations for the mechatronic system, considering factors such as manufacturing costs, material expenses, or the total cost of ownership over the system's lifecycle. |  |
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